

Name: _____

Worksheet: Classifying Matter

Classify each of the materials below. In the center column, state whether the material is a **pure substance** or a **mixture**.

- If the material is a pure substance, further classify it as either an **element** or **compound** in the right column.
- If the material is a mixture, further classify it as **homogeneous** or **heterogeneous** in the right column. Write the entire word in each space to earn full credit.

Material	Pure Substance	→ Element or Compound
	Mixture	→ Solution(Homogeneous) or Mechanical mixture (Heterogeneous)
Laundry detergent (contains white and blue crystals)		
sugar + pure water ($C_{12}H_{22}O_{11} + H_2O$)		
iron filings (Fe)		
limestone ($CaCO_3$)		
orange juice (water and pulp)		
Pacific Ocean (Water and Salt)		
air		
aluminum (Al)		
magnesium (Mg)		
acetylene (C_2H_2)		
tap water in a glass		
pure water (H_2O)		
soil		
chromium (Cr)		
baking soda ($NaHCO_3$)		
salt + pure water ($NaCl + H_2O$)		
benzene (C_6H_6)		
muddy water		
brass (Cu mixed with Zn)		
Pizza		

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Worksheet: Classifying Matter

Classify the following statements as heterogeneous mixture, a suspension, a colloid or a solution (homogeneous mixture).

1. Spicy salad dressing
2. Soda pop
3. Fertilizer that is spread on the lawn.
4. Paint for the walls
5. A compost pile in the backyard for the garden
6. A gold necklace (gold and copper)
7. Laundry detergent (contains white and blue crystals)
8. Pizza
9. Cough syrup that must be shaken before it is ingested.
10. Freshly squeezed orange juice
11. Blueberry muffin
12. Benzene (C_6H_6)
13. Nail polish remover (C_3H_6O)
14. A muddy pond
15. A mixture of rocks, grass and metal

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Key

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- If the material is a mixture, further classify it as **homogeneous** or **heterogeneous** in the right column. Write the entire word in each space to earn full credit.

Material	Pure Substance	→ Element or Compound
	Mixture	→ Solution(Homogeneous) or Mechanical mixture (Heterogeneous)
Laundry detergent (contains white and blue crystals)	Mixture	Heterogeneous
sugar + pure water ($C_{12}H_{22}O_{11} + H_2O$)	Mixture	Homogeneous
iron filings (Fe)	Pure substance	Element
limestone ($CaCO_3$)	Pure substance	Compound
orange juice (water and pulp)	Mixture	Heterogeneous
Pacific Ocean (Water and Salt)	Mixture	Homogeneous
air	Mixture	Homogeneous
aluminum (Al)	Pure substance	Element
magnesium (Mg)	Pure substance	Element
acetylene (C_2H_2)	Pure substance	Compound
tap water in a glass	Mixture	Homogeneous
pure water (H_2O)	Pure substance	Compound
soil	Mixture	Heterogeneous
chromium (Cr)	Pure substance	Element
baking soda ($NaHCO_3$)	Pure substance	Compound
salt + pure water ($NaCl + H_2O$)	Mixture	Homogeneous
benzene (C_6H_6)	Pure substance	Compound
muddy water	Mixture	Heterogeneous
brass (Cu mixed with Zn)	Mixture	Homogeneous
Pizza	Mixture	heterogeneous

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Worksheet: Classifying Matter

Classify the following statements as mechanical mixture, a suspension, a colloid or a solution (homogeneous).

(heterogeneous)

16. Spicy salad dressing
Mechanical mix. OR suspension
17. Soda pop
solution
18. Granular fertilizer that is spread on the lawn.
solution
19. A mixed drink for Captain Morgan (80% Vodka and 20% Water)
solution
20. Paint for the walls
colloid
21. A compost pile in the backyard for the garden
Mechanical mix.
22. A gold necklace (gold and copper)
solution
23. Laundry detergent (contains white and blue crystals)
colloid
24. Pizza
Mechanical mix.
25. Cough syrup that must be shaken before it is ingested.
suspension
26. Freshly squeezed orange juice
suspension
27. Blueberry muffin
Mechanical mix.
28. Benzene (C_6H_6)
PURE SUBSTANCE!
29. Nail polish remover (C_3H_6O)
PURE SUBSTANCE!
30. A muddy pond
Suspension (if it settles on bottom)
31. A mixture of rocks, grass and metal
Mechanical mix.